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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,681	12/14/2001	Young C. Ko	KCC-17,441	9561

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EXAMINER
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YAO, SAMCHUAN CUA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/017,681	Applicant(s) KO ET AL.	
	Examiner Sam Chuan C. Yao	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102/103*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 24-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Itoh et al (US 4,892,754).

With respect to claim 24, Itoh et al teaches a process for making an absorbent web, the process comprises:

- a) providing a 1<sup>st</sup> super-absorbent polymer precursor composition including a monomer (col. 4 line 55 to col. 5 line 43);
- b) providing a 2<sup>nd</sup> super-absorbent polymer precursor composition including a water soluble radical polymerization initiator (col. 5 lines 44-51);
- c) providing a prefabricated fibrous web including natural cellulosic fibers and/or (polyester fibers or other thermoplastic fibers) (col. 5 line 64 to col. 6 line 5);
- d) separately and sequentially (i.e. two different stages) applying the 1<sup>st</sup> and 2<sup>nd</sup> super-absorbent polymer precursor compositions to the fibrous web, wherein the

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precursor compositions come into contact with each other (col. 6 lines 49-59; col. 6 lines 33-46; example 2); and,

- e) chemically reacting the 1<sup>st</sup> and 2<sup>nd</sup> super-absorbent polymer precursor compositions in or on the fibrous web (col. 7 lines 7-29).

In light of the following passage (for example), "... a [1<sup>st</sup>] method wherein a radical polymerization initiator is applied uniformly in the form of a separate solution from the aqueous monomer to the fibrous substrate, to which the aqueous monomer has previously been applied, by spraying or the like and is decomposed on the fibrous substrate **and** a [2<sup>nd</sup>] method wherein a radical polymerization initiator is applied uniformly in the form of a separate solution from the aqueous monomer to the fibrous substrate, and then the aqueous monomer is uniformly applied thereto, by spraying, coating or the like" (bold face, emphasis and words added; col. 6 lines 49-59); and, in view that, Itoh et al also teaches "the aqueous monomer is uniformly applied thereto, by spraying" (emphasis added; col. 6 lines 57-59) in the 2<sup>nd</sup> method, and further teaches applying a 2<sup>nd</sup> superabsorbent precursor composition in a form of a mist (column 8 lines 41-46), it is taken that, the teachings of Itoh et al envisions sequentially spraying 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions to a preformed fibrous web. In any event, it would have been obvious in the art to use a spraying method in a sequential application of 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions to a preformed fibrous web, because: a) there are only three conventional methods (impregnating, spraying, and coating) for applying these compositions suggested

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by Itoh et al (col. 6 lines 9-59); b) it is conventional in the art to impregnate or coat a fibrous substrate with a polymeric composition by spraying; and, c) Ito et al also teaches sequentially applying a 1<sup>st</sup> superabsorbent precursor composition and a 2<sup>nd</sup> superabsorbent precursor composition to a fibrous substrate wherein the 2<sup>nd</sup> superabsorbent precursor composition is in form of a mist (col. 8 lines 41-46). For these reasons, the application of 1<sup>st</sup> and 2<sup>nd</sup> superabsorbent precursor compositions using a non-contact application process is either anticipated by or obvious over the teachings of Itoh et al.

With respect to claim 25, see column 7 lines 26-36.

With respect to claims 26-27, see column 4 line 56 to column 5 line 21.

With respect to claims 1, 7-9, and 11-14, in light of the similarity of the production processes, the recited limitation of having SAPs which stick to surface of fibers at distance from each other is taken to be envisioned in the process taught by Itoh et al. In any event, such would have been obvious in the art as such is conventional/notoriously well known in the art. See cited references in numbered paragraph 7 for evidence. Note that, whether SAPs sticking on fibers are at a distance from each other or in substantially contact from each other significantly depends on the amount (i.e. concentration) of SAPs which is applied to a fibrous web.

With respect to claims 2-3, sprayed mists generally have a diameter range that fall within or overlap with the range recited in these claims.

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4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al (US 4,892,754) as applied to claim 1 or 15 above.

With respect to claims 4-6, the recited viscosity range is conventional in the art.

One in the art would have determined, by routine experimentation, a workable viscosity range in order to effectively impregnate a fiber web with superabsorbent compositions.

5. Claims 9 and 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al (US 4,892,754) as applied to claim 1 above, and further in view of Trokhan et al (US 5,547,747) and either (Anderson et al (US 6,103,061) or Wisneski et al (US 6,533,989)).

With respect to claims 9 and 15, since Trokhan et al teaches the difficulty of spraying a superabsorbent material to a fiber web in a precise pattern and suggest using a printing method to precisely apply a superabsorbent material to a fiber web (col. 1 line 21 to col. 2 line 23) and since it is a common knowledge in the art to apply a coating/impregnating liquid agent to an absorbent fibrous web using a jet-printing or a spray-printing technique as exemplified in the teachings of either Wisneski et al (col. 11 lines 5-15) or Anderson et al (col. 1 lines 7-11; col. 12 line 66 to col. 13 line 38), this claim would have been obvious in the art.

With respect to claim 16, the recited compositions of a non-woven web in these claims read on using 100% by weight absorbent fibers such as wood pulp, cotton, etc. (col. 5 lines 64-68).

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With respect to claim 17, since the recited composition range in a pre-formed non-woven web is conventional/notoriously well known in the art, this claim would have been obvious in the art.

With respect to claims 18-19, it is conventional/notoriously well known in the art to form thermoplastic fibers by either melt-blowing or spun-bonding process.

With respect to claim 20, see column 4 line 56 to column 5 line 21.

With respect to claims 21-23, the recited amount of SAP in these claims is conventional in the art.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Masaki et al (US 5,821,179; figures 1A-1B), LeVon et al (US 5,817,081; col. 16 lines 48-52), and Kellenberger et al (US 4,699,823; figures 2-3) are cited as evidence that it is notoriously well known to apply SAPs where the SAPs are attached to fibers and are distance from each other.

Roe (US 5,422,169) is cited as a reference showing an absorbent web containing SAPs in a weight range of 25-98 wt%, and further teaches various distribution of SAPs in a web (col. 11 line 39 to col. 12 line 27).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao  
Primary Examiner  
Art Unit 1733

Scy  
02-13-04